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## EXHIBIT "B"

**PLUGGABLE, AGENT-DRIVEN, CONSTRAINT-BASED INSTANT MESSAGING  
DELIVERY SYSTEM**

**ABSTRACT**

Disclosed is a new instant message delivery system which integrates multiple protocols and notification services to provide a more robust, intelligent method of synchronous communication. When a user composes a message and dispatches it to a user, the system assigns it to a *delivery manager*, an agent which assumes responsibility for routing the logical content of the message to the recipient. Message recipients have corresponding *profiles*, which specify how they may be contacted via different *delivery mechanisms*, or messaging services. A delivery manager agent adheres to a *delivery policy*, which consists of a message routing algorithm paired with an agent-specific configuration.

Both delivery manager agents and delivery mechanisms are *pluggable* and *hot-swappable*, meaning that multiple implementations or functional variants may exist simultaneously and be dynamically added or removed. Delivery mechanisms support a common set of instant messaging functionality, providing an abstraction over a wide variety of network protocols and notification services. Delivery managers support a common message routing interface, with each variant implementing different delivery policies. Delivery policies may utilize any of the delivery mechanisms available at the time a message is dispatched. Delivery managers are selected on a per-message basis, according to user configurations such as message priority.

**MESSAGE ROUTING ALGORITHM (Figure [pref\_method])**

1. User composes an instant message with a specified recipient (Figure [instant\_message]). The user may specify optional *message properties* for use in delivery manager and delivery manager configuration selection. Particular delivery managers may also utilize optional message properties to further constrain message delivery.
2. Based on application configuration and message content, the system selects a particular class of delivery manager from the delivery manager database. The system allocates an instance of that delivery manager and assigns the instant message to it.
3. Based on application configuration, message content, and delivery manager, a delivery manager configuration is selected from the Delivery Manager Configuration Database.
4. The delivery manager is initialized with the selected configuration data and is ready to begin message routing.
5. The delivery manager queries the User Configuration Database (Figure [user\_config]) for the user name specified in the instant message. The database contains a Delivery Mechanism Configuration Table (Figure [user\_config]) for each valid message recipient. Each user's table contains configuration information for one or more of the delivery mechanisms present in the system. Mechanism-specific configurations contain data such as recipient login names on specific servers, or public keys for encrypted messaging protocols.

6. The delivery manager queries the Delivery Mechanism Database for an enumeration of all *active* delivery mechanisms, or all delivery mechanisms that are presently capable of sending messages.
7. The intersection of delivery mechanisms listed in the Delivery Mechanism Configuration Table and the enumeration of active delivery managers specifies the set of mechanisms available for routing the assigned instant message. The particular delivery manager's routing algorithm implements the delivery policy as constrained by this subset of delivery mechanisms. The instant message is dispatched to one or more of the available delivery mechanisms, serially or in parallel as required by the delivery policy.

FIG. 1: PRE-METHOD

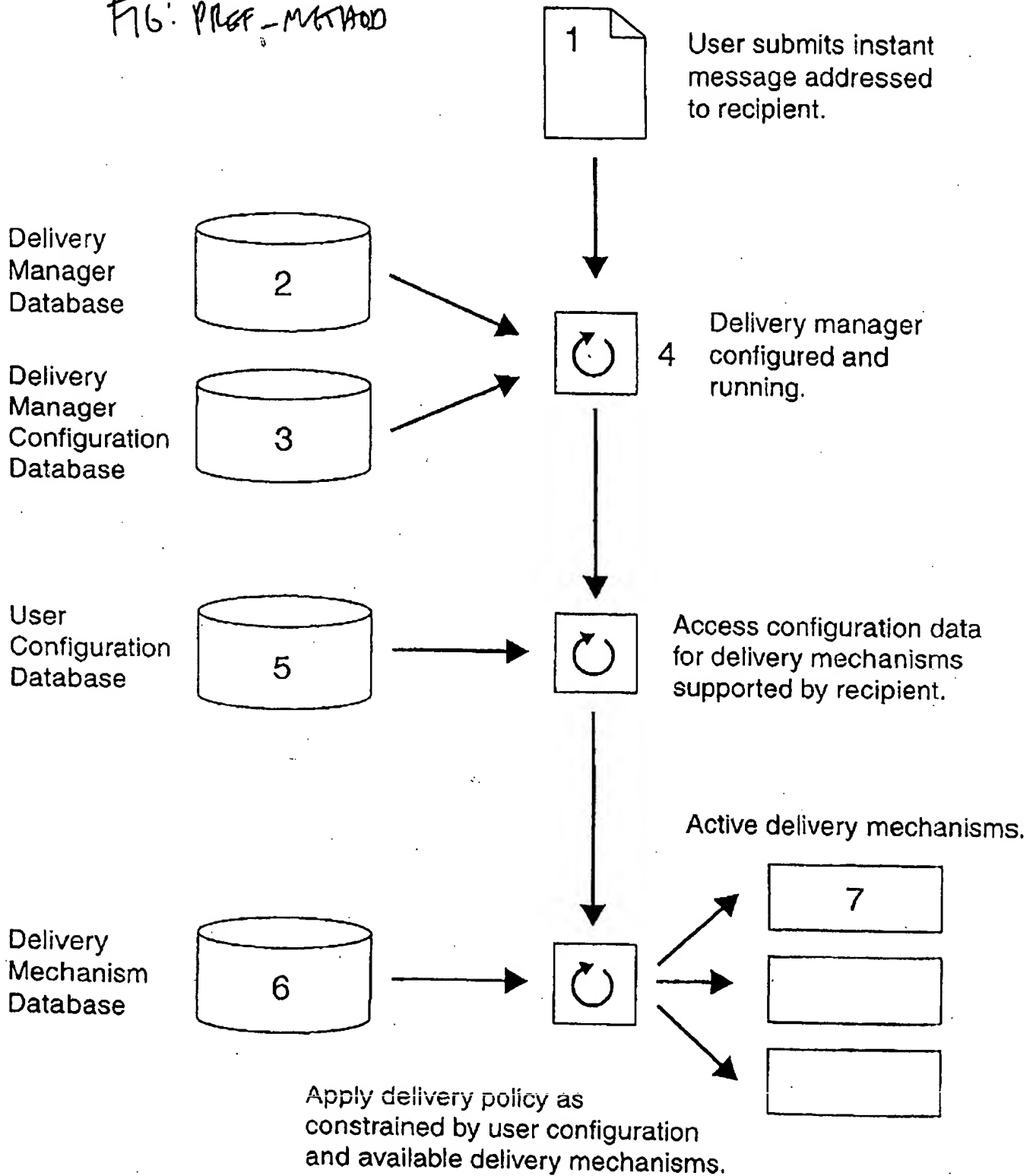
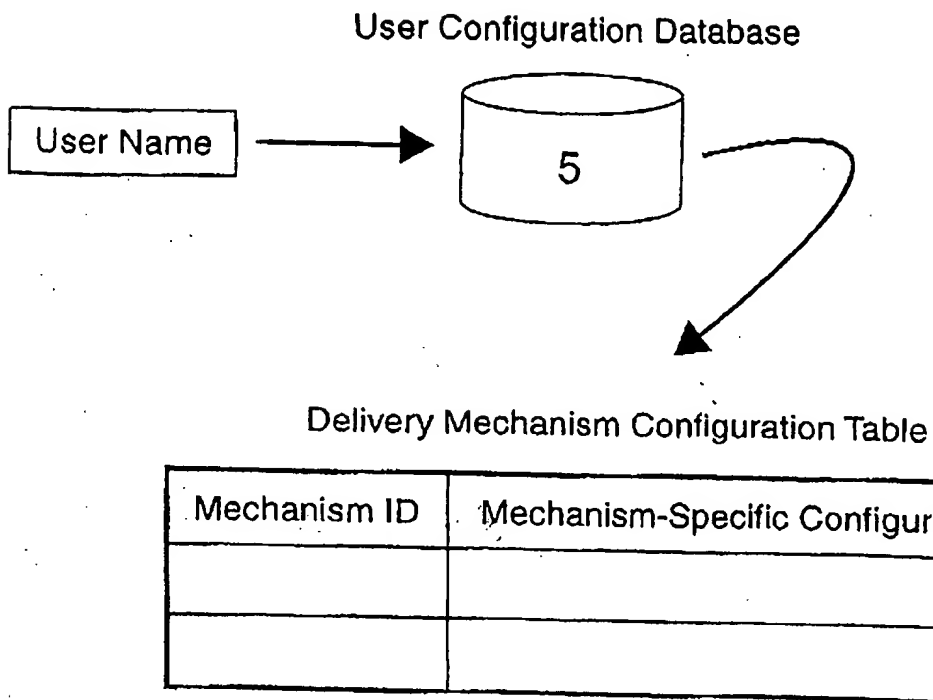


FIG: INSTANT\_MESSAGE

## Instant Message

User Name	John Smith
Body	Hello, John.
Properties	PRIORITY = HIGH EXPIRES = CURRENT_TIME + 3600

FIG: USER-CONF



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